



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/510,905	02/23/2000	John A. Thodiyil	SUN-P3992-JTF	3744
22200	7590	05/06/2004	EXAMINER	
PARK, VAUGHAN & FLEMING LLP 702 MARSHALL STREET SUITE 310 REDWOOD CITY, CA 94063			PHILPOTT, JUSTIN M	
			ART UNIT	PAPER NUMBER
			2665	

DATE MAILED: 05/06/2004

14

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/510,905

Applicant(s)

THODIYIL, JOHN A.

Examiner

Justin M Philpott

Art Unit

2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-22 and 24-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3, 5-22, 24 and 32 is/are allowed.
- 6) ☒ Claim(s) 25-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 27, 2004 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 25-31 have been considered but are moot in view of the new ground(s) of rejection.

3. Applicant's arguments, see pages 11-17, filed February 27, 2004, with respect to claims 1-3, 5-22, 24 and 32 have been fully considered and are persuasive. The rejection of claims 1-3, 5-22, 24 and 32 has been withdrawn.

Claim Objections

4. Claim 25 is objected to because of the following informalities: "a communication link" (line 13) should be changed to "the communication link" since it appears that this element refers to the link introduced at line 2 rather than a completely different communication link.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 25-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,844,890 to Delp et al. in view of U.S. Patent No. 5,732,094 to Petersen et al.

Regarding claim 25, Delp teaches a communication interface device for transmitting prioritized data over a communication link, comprising: first and second memories (e.g., queues of data descriptors, see col. 6, line 54 – col. 7, line 30) configured to store descriptors (e.g., descriptors 206 in FIG. 2) corresponding to a first and second packet having a first and second priority (e.g., see col. 5, lines 23-25 regarding multiple priorities of traffic; and see col. 5, line 34 – col. 6, line 53 regarding priority wherein the priority of the data corresponds with the priority of the assigned timing wheel), the first and second memories being associated with a first and second weight (e.g., see col. 5, lines 49-56 regarding time slot window), wherein the first and second weight corresponds to a first and second preferred amount of data to be scheduled (e.g., wherein the time slot window and bit rate determine the data amount), during a first servicing turn of the first and second memory, for transmission over a communication link; a transmission queue (e.g., transmission preparation 208) into which one of the first packet and second packet (e.g., from queues 204) is placed for transmission over the communication link; and an arbiter (e.g., by means of step 720, see FIG. 7A) configured to monitor the presence of data retrieved during the servicing turn in which one of the first packet and the second packet is placed in the

Art Unit: 2665

transmission queue (e.g., transmission preparation logic 208); wherein the first weight and the second weight are dynamically adjustable (e.g., see col. 9, lines 37-54 wherein a new time slot is calculated).

However, while Delp teaches monitoring for the presence of data retrieved during the servicing turn (e.g., by means of step 720, see FIG. 7A), Delp may not specifically disclose monitoring an *amount* of the data retrieved.

Petersen also teaches a device for transmitting prioritized data over a communication link (e.g., see col. 2, lines 8-55). Further, Petersen specifically teaches monitoring an amount of data retrieved (e.g., see col. 2, lines 12-16) to make a threshold determination of the amount of data. The teachings of Petersen provide increased flexibility for composing and transmitting data frames by host systems while maintaining communications throughput for applications that are communications intensive (e.g., see col. 2, lines 47-52). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the teachings of Petersen with the device of Delp in order to provide increased flexibility for composing and transmitting data frames while maintaining communications throughput for applications that are communications intensive (e.g., see Petersen, col. 2, lines 47-52).

Regarding claims 26 and 27, Delp teaches a loader (e.g., transmission selection logic cell scheduler 102, see FIG. 2) configured to retrieve a first packet for placing in the transmission queue (e.g., transmission preparation logic 208) during the servicing turn of the first memory, and to load a next descriptor (e.g., LCD 206) for storage in a memory (e.g., queue of data descriptors) (e.g., see col. 6, line 61 – col. 7, line 3).

Regarding claim 28, Petersen teaches determining whether an amount of data placed in a transmission queue (e.g., transmit buffer) during a first servicing turn of a memory (e.g., downloading by the host) exceeds a first preferred amount of data (e.g., threshold amount) to be placed in the transmission queue (e.g., see col. 2, lines 8-27, and col. 3, lines 54-59). As discussed above, the teachings of Petersen provide increased flexibility for composing and transmitting data frames by host systems while maintaining communications throughput for applications that are communications intensive (e.g., see col. 2, lines 47-52). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the teachings of Petersen with the device of Delp in order to provide increased flexibility for composing and transmitting data frames while maintaining communications throughput for applications that are communications intensive (e.g., see Petersen, col. 2, lines 47-52).

Regarding claim 29, Petersen teaches a first preferred amount of data (e.g., data transmitted from a first of two buffers, see col. 12, line 29 – col. 13, line 5) may be reduced by a deficit (e.g., by utilizing padding, see col. 8, lines 58-65) for a second servicing round. As discussed above, the teachings of Petersen provide increased flexibility for composing and transmitting data frames by host systems while maintaining communications throughput for applications that are communications intensive (e.g., see col. 2, lines 47-52). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the teachings of Petersen with the device of Delp in order to provide increased flexibility for composing and transmitting data frames while maintaining communications throughput for applications that are communications intensive (e.g., see Petersen, col. 2, lines 47-52).

Regarding claim 30, Petersen implicitly teaches the deficit (e.g., requiring padding, see col. 8, lines 58-65) may correspond to an amount of data beyond the first preferred amount transmitted during the first servicing turn, for a second servicing round of the first memory (e.g., first buffer), by disclosing that the logic switches from one buffer to the other whenever it has completed a transmission (e.g., see col. 12, lines 54-63) and that for the occurrence of data previously transmitted which exceeded the threshold (e.g., see col. 3, lines 54-59), for a next servicing of the buffer, an amount of buffered data less than a frame is transmitted along with padding (e.g., see col. 8, lines 58-65). As discussed above, the teachings of Petersen provide increased flexibility for composing and transmitting data frames by host systems while maintaining communications throughput for applications that are communications intensive (e.g., see col. 2, lines 47-52). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the teachings of Petersen with the device of Delp in order to provide increased flexibility for composing and transmitting data frames while maintaining communications throughput for applications that are communications intensive (e.g., see Petersen, col. 2, lines 47-52).

Regarding claim 31, Delp teaches a multiplexer (e.g., switching/routing system 112, see FIG. 1) configured to pass the descriptor corresponding to a first packet to the above-mentioned arbiter and loader (e.g., cell scheduler 102) during the first servicing turn of one of the first and second memory.

Allowable Subject Matter

7. Claims 1-3, 5-22, 24 and 32 are allowed.

Art Unit: 2665

8. The following is a statement of reasons for the indication of allowable subject matter: claims 1, 11, 24 and 32 are allowable over the prior art of Delp in view of Petersen for reasons argued by applicant in the Remarks filed February 27, 2004 (pages 11-17). Claims 2, 3, 5-10 and 12-22 each depend upon, and include additional limitations of, one of claims 1, 11, 24 and 32, and therefore, are also allowed.

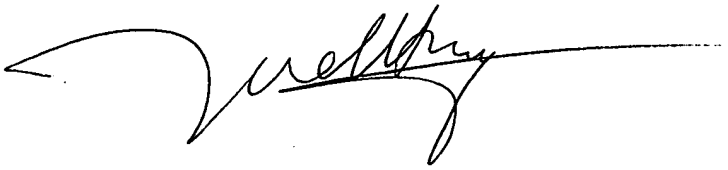
Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin M Philpott whose telephone number is 703.305.7357. The examiner can normally be reached on M-F, 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D Vu can be reached on 703.308.6602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Justin M Philpott


HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600